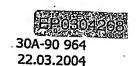## CLAIMS

1.   A method of initiating the bypassing of a pair of transcoding operations performed in series by a first transcoder arranged together with a first communication terminal on a local side of a communication network and by a second transcoder arranged together with a second communication terminal on a distant side of the communication network, comprising receiving from the distant side, in an initial request to bypass transcoding operations, information about an encoding format currently in use on the distant side and about encoding capabilities of the distant side and transmitting to the distant side, in an initial response to the initial request, information about an encoding format currently in use on the local side and about encoding capabilities of the local side to enable on one or on both sides a change of the encoding format currently in use prior to initiating the bypassing of the transcoding operations.

2.   The method of claim 1 further comprising deciding about the change of the encoding format even if compatible encoding formats are currently used on both sides.

3.   The method of one of claims 1 or 2, wherein the information on the encoding capabilities of the distant side is used to determine an alternative encoding format that is supported on both the local and the distant side.

4.   The method of claim 3, wherein the change of the encoding format is effected on the basis of the alternative encoding format.

5.   The method of one of claims 1 to 4, wherein the information about the encoding capabilities includes the version of a bypassing protocol supported by the respective transcoder.

6.   The method of one of claims 1 to 5, wherein the information about the encoding capabilities includes a list of encoding formats supported by the respective communication terminal.

7.   The method of one of claims 1 to 6, wherein the change of the encoding format is effected with the purpose of establishing an optimal encoding configuration on the basis of compatible encoding formats on both sides.

8.   The method of one of claims 1 to 7, further comprising changing the encoding format currently in use and notifying the distant side thereof prior to entering an operational state bypassing the transcoding operations.

9.   The method of one of claims 5 to 8, wherein a bypassing protocol is aborted if incompatible protocol versions are used on the two sides and/or, in the case of compatible protocol versions, the encoding format is changed in a contact state of the bypassing protocol that is followed by an operational state in which the transcoding operations are bypassed.

10.   The method of one of claims 1 to 9, wherein the information about the encoding format includes a codec type that is used to encode speech signals into an encoded data representation.

11.   The method of one of claims 1 to 10, wherein the information on the encoding capabilities of the distant side is used to look up a subset of encoding formats supported on the distant side, wherein that subset is compared with the encoding formats supported on the local side and wherein the best encoding format in common is chosen to initiate bypassing of the transcoding operations.

12.   The method of one of claims 1 to 11, wherein the information about the encoding format currently in use and about the encoding capabilities are included in a message requesting the initiation of a bypassing protocol or a message acknowledging such a request.

13.   The method of claim 12, wherein the information about the encoding capabilities is appended in the form of one or more individual information blocks to the message.

14.   The method of claim 13, wherein a first appended block includes the version of a bypassing protocol and an indicator that indicates if the first appended block is followed by a second appended block that includes a list of supported encoding formats.

15.   The method of one of claims 1 to 14, wherein the method is performed in context with setting up of a tandem free operation (TFO) between the two communication terminals.

16.   The method of one of claims 1 to 15, wherein at least one of the communication terminals uses at least one encoding format in the form of a codec type to encode speech signals into an encoded data representation and wherein messages are sent between the two transcoders to determine if the communication terminals have at least one codec type in common and if this is the case to establish a data connection between communication terminals without having the need to insert transcoding functions into a signal path between the communication terminals.

17.   The method of claim 15 or 16, wherein between the transcoders first messages are exchanged that contain the information about the encoding format currently used by the respective communication terminal and that contain the further information about the encoding capabilities of the respective communication terminal or transcoder.

18.   The method of one of claims 15 to 17, wherein a second message is exchanged between the transcoders as a response to the first message if both reported codec types match or regardless of such a match.

19.   A method of initiating a tandem free operation (TFO) in a communication network for speech communication between a first communication terminal and a second communication terminal, wherein at least one of the terminals uses at least one codec type to encode speech signals into an encoded data representation, wherein the communication network includes a first transcoder and a second transcoder, and wherein messages are sent from the first transcoder to the second transcoder and vice versa to determine if both communication terminals have at least one codec type in common and if this is the case to establish a data connection between the first communication terminal and the second communication terminal without having the need to insert transcoding functions into a signal path between the first and the second communication terminal comprising the step of:
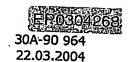
- exchanging a request message and a response message between the transcoders that respectively contain an initial request to initiate tandem free operation and a response thereto, each message having information on the encoder type currently used by the communication terminals and further information on encoding capabilities of the respective

5   communication terminal.

20.   The method of claim 19, wherein the information on encoding capabilities includes a TFO version number that is used by the receiving transcoder to look up a subset of at least one of an active codec set that is in a mandatory manner supported in the specific

10   TFO version and a supported codec is list, wherein the transcoder compares that subset with the codec types supported by the associated communication terminal and wherein the best codec type in common is chosen to enter into TFO.

21.   A computer program product comprising program code portions for

15   performing the steps of one of claims 1 to 20 when the computer program product is run on one or more computing units of the communication net.

22.   The computer program product of claim 21, stored on a computer readable recording medium.

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23.   A device for processing signals in context with the initiation of the bypassing of a pair of transcoding operations performed in series by a first transcoder arranged together with a first communication terminal on a local side of a communication network and by a second transcoder arranged together with a second communication terminal on a

25   distant side of the communication network, comprising a component for receiving information, in an initial request to bypass transcoding operations, about an encoding format currently in use on the distant side and about encoding capabilities of the distant side and a component for transmitting information, in an initial response to the initial request to bypass transcoding operations, about an encoding format currently in use on the local side and

30   about encoding capabilities of the local side to enable on one or on both sides a change of the encoding format currently in use prior to initiating the bypassing of the transcoding operations.

24.   A transcoder including the device of claim 23.

25.   The transcoder of claim 24, further comprising a component for evaluating local and distant encoding information and for controlling the change of the encoding format.

26.   A communications system including the transcoder of claim 24 and a controller for evaluating local and distant encoding information and for controlling the change of the encoding format.

27.   The communications system of claim 26, wherein the controller is included is in a BTS or a BSC.